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Marc Sockol Squire, Sanders & Dempsey L.L.P. 600 Hansen Way Palo Alto, CA 94304-1043			COLIN, CARL G	
			ART UNIT	PAPER NUMBER
			2136	20
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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.	Applicant(s)	
09/459,493	RUBIN ET AL.	
Examiner	Art Unit	
Carl Colin	2136	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 1/2/2004.

2a) This action is FINAL. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-80 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) Claim(s) _____ is/are allowed.

6) Claim(s) 1-80 is/are rejected.

7) Claim(s) _____ is/are objected to.

8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) The proposed drawing correction filed on _____ is: a) approved b) disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some * c) None of:

1. Certified copies of the priority documents have been received.

2. Certified copies of the priority documents have been received in Application No. _____.

3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) The translation of the foreign language provisional application has been received.

15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) Notice of References Cited (PTO-892)

4) Interview Summary (PTO-413) Paper No(s). _____.

2) Notice of Draftsperson's Patent Drawing Review (PTO-948)

5) Notice of Informal Patent Application (PTO-152)

3) Information Disclosure Statement(s) (PTO-1449) Paper No(s) 18.

6) Other: _____

DETAILED ACTION

Response to Arguments

1. In response to communications filed on 01/02/2004, applicant has amended claims 1-5, 9, 11, 13, 14, 17, 18, 27-31, 33, 36-, 39, 40, 45, 49, 50, 53-57, 61, 63, 65, 66, 69, and 70. The following claims 1-80 are presented for examination.

2. The amendments to the specification, page 2, filed on 01/02/2004 have been considered.

2.1 Applicant's amendments, page 15, filed on 01/02/2004, with respect to the rejection of claims 5, 18, 31, 40, 57, and 70 under 35 USC 112 have been fully considered.

2.2 Applicant's arguments, pages 17-22, filed on 01/02/2004, with respect to the rejection of claims 1-14, 16, 19-28, 33-44, 46, 47, and 50-84 under 35 USC 102 (b) have been fully considered but are not fully persuasive. Regarding claim 1, Applicant mentions that Mast uses API functions to perform the last step of claim 1, which can be vulnerable. Examiner respectfully asserts that Mast method still meets the recitation of claim 1 of replacing pixel data with substitute pixel data after an instruction to copy pixel data from the video RAM is received. Applicant argues that Mast does not describe modifying data prior to being transferred. Examiner respectfully asserts that Mast teaches data encryption prior to display (see column 7, lines 40-47), which meets the recitation of modifying data prior to its being received by the video RAM as amended. Different schemes of encryption are well known in the art. Mast also discloses in prior art many different methods of modifying data prior to being received by the

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video RAM. Upon further consideration of claim 1 as amended, to show that individual pixel datum is recognized as being protected a new ground of rejection is made in combination of Mast in view of another reference. Balogh et al. discloses modifying individual pixel datum that is recognized as being protected prior to its being received by the video RAM and within video RAM; also, this teaching can also be used in combination with Mast disclosure after instruction to copy from the video RAM is received.

Applicant's arguments, pages 18-22, filed on 01/02/2004, with respect to the rejection of claims 2-13, 14, 15-26, 27, 28-35, 36, 37-44, 45, 46-49, 50, 51-53, 54-65, 66-80 have been fully considered but are not persuasive for the same reasons described above. Regarding claims 2, and 28 pages 18-19 and the other claims in view of Mills, the rejection has been withdrawn. However, upon further consideration, a new ground of rejection is made in view of Balogh et al. as Balogh et al. discloses changing pixel values with respect to blue component in the RGB color space. The other limitations of claims disclosed by Mast can still apply, as Applicant does not argue them. A new ground of rejection is made in view of Balogh et al. under 35 U.S.C. 103 (a).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have

been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3.1 **Claims 1-80 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 5,881,287 to Mast in view of US Patent 5,893,101 to Balogh et al.**

3.2 **As per claim 1, Mast substantially teaches a method for protecting digital images from being copied from a video RAM, (see column 3, lines 25-34 and column 9, lines 60-67). Mast discloses the step of transmitting stored pixel data from a computer memory to a video RAM (column 3, lines 25-57). As defined in the dictionary, the pixels are the basic units of the composition of the image disclosed by Mast. Mast also discloses the step of identifying protected image within the image in memory that meets the recitation of identifying the protected pixel data within the stored pixel data (see column 3, lines 30-49; and lines 49-57; and column 10, lines 57-61). Mast discloses in prior art (columns 1-3) many examples of modifying pixel data prior to arrival at the video RAM. Mast further discloses the steps of modifying pixel data by encryption before transmitting to end users, prior to its being received by the video RAM, thereby generating modified pixel data within which individual pixel datum is recognizable as being protected or unprotected (see column 7, lines 34-47); and after instruction to copy pixel data from the video RAM, replacing individual pixel datum that is recognized as being protected, with substitute pixel datum (column 3, lines 30-49, column 9, lines 59 et seq., and column 10, line 53 through column 11, line 1). Mast does not explicitly teach that individual pixel data is**

recognized as being protected. However, **Balogh et al.** in an analogous art teaches copyright protection and image authentication reciting modifying pixel data prior to display thereby generating modified pixel data within which individual pixel datum is recognizable as being protected or unprotected (see column 10, line 50 through column 11, line 52; see also column 8, line 59 through column 9, line 14). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method of **Mast** by modifying pixel data prior to display or/and after instruction to copy pixel data, generating modified pixel data within which individual pixel datum is recognizable as being protected or unprotected as taught by **Balogh et al.** in order to alter pixel data in a way that appears unchanged and protect images from being copied (see column 10, lines 50-67). This modification would have been obvious because one skilled in the art would have been motivated by the suggestions provided by **Balogh et al.** so as to alter pixel data in a way that appears unchanged and protect images from being copied.

As per claims 2, 28, and 54, Balogh et al. discloses the limitation of wherein said modifying sets least significant bits of pixel data whereby pixel data is recognized as being protected or unprotected (see column 10, lines 50-67). Mask did not mention setting least significant bit, which is known in the art, but mentions that images can be altered in a manner to appear unchanged.

As per claims 3 29, and 55, Balogh et al. discloses the limitation of wherein pixel data includes red, green, and blue color components and wherein, said modifying sets the least significant bits within pixel data of the blue components (see column 10, lines 50-59).

As per claim 4, Mast substantially discloses rendering pixel data in video RAM on a video display device, (see column 1, lines 40-47).

As per claims 5, 30, and 56, Balogh et al. discloses the limitation of rendering pixel data that is visually similar (see column 10, lines 50-67) to the stored pixel data when rendered on a video display device.

As per claim 6, Mast discloses the limitation of wherein the pixel data is copied from the video RAM by a screen capture command (column 10, lines 52-66 and columns 11-12).

As per claim 7, Mast discloses the limitation of wherein the pixel data is copied from the video RAM by command to copy screen data to a clipboard (column 10, lines 52-66 and columns 11-12).

As per claims 8, 32, and 60, Mast discloses the limitation of wherein the protected pixel data is pixel data for at least one protected digital image (see fig. 8 and column 10, line 52 through column 12).

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As per claim 9, Mast substantially teaches the claimed method of claim 8. Mast discloses sending protected image to end user but does not specifically disclose downloading the at least one protected image over the Internet, which is well known in the art.

As per claims 12 and 34, Mast discloses the limitation of wherein the stored pixel data is encrypted pixel data (see column 7, lines 20-47).

As per claims 13 and 35, Mast discloses the limitation of decoding encrypted stored pixel data (see column 9, lines 8-20).

As per claim 10, Mast discloses the limitation of wherein the stored pixel data is encrypted pixel data (see column 7, lines 20-47). Mast further discloses that the image files are protected from misappropriation with some form of encryption and suggests to use other encryption schemes than the one disclosed (see column 7, lines 40-47). Therefore, it is apparent to one of ordinary skill in the art, as an encryption scheme, to have the substitute pixel datum encrypted to indicate that they are protected images.

As per claim 11, Mast discloses the limitation of decoding encrypted pixel data (see column 9, lines 8-20).

As per claim 14, Mast teaches the limitations of claim 14 using a method and an apparatus in a computer system (see column 4, lines 19-28). Claim 14 recites the same

limitation as the rejected claim 1 except for incorporating the claimed methods into a system. A computer system has data buses to transfer data for storage, a digital filter to identify and modify pixel data, and processors to replace or copy information to memory. It is apparent to one skilled in the art that the method disclosed by Mast can be applied in a system.

Claims 15, 37, and 67 are similar to the rejected **claim 2** except for incorporating the claimed method into a system. Therefore, **claims 15, 37, and 67** are rejected on the same rationale as the rejection of **claim 2**.

Claims 16, 38, and 68 are similar to the rejected **claim 3** except for incorporating the claimed method into a system. Therefore, **claims 16, 38, and 68** are rejected on the same rationale as the rejection of **claim 3**.

As per claim 17, Mast discloses the claimed system of claim 14. Claim 17 is similar to the rejected claim 4. Therefore, claim 17 is rejected on the same rationale as the rejection of claim 4.

Claims 18, 40, and 70 are similar to the rejected **claim 5** except for incorporating the claimed method into a system. Therefore, **claims 18, 40, and 70** are rejected on the same rationale as the rejection of **claim 5**.

As per claim 19, Mast discloses the claimed system of claim 14. Claim 19 recites the limitation of wherein said first data bus and said second data bus are distinct data busses. It is apparent to one skilled in the art that a computer system has distinct data buses to transfer data for storage (see column 4, lines 19-28).

As per claim 20, Mast discloses the claimed system of claim 14. Claim 20 recites the limitation of wherein said first data bus and said second data bus are the same data bus. The fact of using the same data bus instead of two distinct data buses may reduce cost. However, having one bus may slow down the process of transmitting data, and furthermore, it does not provide any backup if the bus fails. It is apparent to one skilled in the art that a computer system is capable of using either the same bus or distinct data buses (see column 4, lines 19-28).

Claims 21, 41, and 75 are similar to the rejected **claim 8** except for incorporating the claimed method into a system. Therefore, **claims 21, 41, and 75** are rejected on the same rationale as the rejection of **claim 8**.

Claims 22, 42, and 76 are similar to the rejected **claim 9** except for incorporating the claimed method into a system. Therefore, **claims 22, 42, and 76** are rejected on the same rationale as the rejection of **claim 9**.

As per claims 23-26, Mast discloses the claimed system of claim 14. Claims 23-26 are similar to the rejected claims 10-13 respectively. Therefore, claims 23-26 are rejected on the same rationale as the rejection of claims 10-13.

As per claim 27, claim 27 recites some of the limitations of the rejected claim 1. Therefore, claim 27 is rejected on the same rationale as the rejection of claim 1.

Claims 31 and 57 are similar to the rejected claim 5. Therefore, claims 31 and 57 are rejected on the same rationale as the rejection of claim 5.

Claims 33 and 61 are similar to the rejected claim 9. Therefore, claims 33 and 61 are rejected on the same rationale as the rejection of claim 9.

As per claim 36, Mast substantially teaches the limitations of claim 36 using a method and an apparatus in a computer system (see column 4, lines 19-28). Claim 36 recites the same limitation as the rejected claim 1 except for incorporating the claimed methods into a system. A computer system has data buses to transfer data for storage and a digital filter to identify and modify pixel data. It is apparent to one skilled in the art that the method disclosed by Mast can be applied in a system.

Claims 39 and 69 are similar to the rejected **claim 4** except for incorporating the claimed method into a system. Therefore, **claims 39 and 69** are rejected on the same rationale as the rejection of **claim 4**.

Claims 43 and 79 are similar to the rejected **claim 12** except for incorporating the claimed method into a system. Therefore, **claims 43 and 79** are rejected on the same rationale as the rejection of **claim 12**.

Claims 44 and 80 are similar to the rejected **claim 13** except for incorporating the claimed method into a system. Therefore, **claims 44 and 80** are rejected on the same rationale as the rejection of **claim 13**.

As per claim 45, Mast substantially teaches a method for protecting pixel data located in a video RAM from being copied. **Mast** also discloses replacing protected pixel data with substitute pixel data, after instruction to copy pixel data from the video RAM (see column 3, lines 30-49, column 9, lines 59 et seq., and column 10, line 53 through column 11, line 1). (See also column 2, lines 13-25). **Mast** discloses that encryption fails to protect pixel data within the video memory because of the need to be displayed (see column 1, lines 62-66). **Mast** does not explicitly teach providing pixel data with marking so that pixel data are recognizable as being protected or unprotected. However, **Balogh et al.** in an analogous art teaches copyright protection and image authentication reciting modifying pixel data prior to display thereby generating modified pixel data within which individual pixel datum is recognizable as being

protected or unprotected (see column 10, line 50 through column 11, line 52; see also column 8, line 59 through column 9, line 14). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method of **Mast** by to provide pixel data pixel data within a video RAM, with marking so that pixel data are recognizable as being protected or unprotected and replacing individual pixel data that is recognized as being protected with substitute pixel data as taught by **Balogh et al.** in order to alter pixel data in a way that appears unchanged and protect images from being copied (see column 10, lines 50-67). This modification would have been obvious because one skilled in the art would have been motivated by the suggestions provided by **Balogh et al.** so as to alter pixel data in a way that appears unchanged and protect images from being copied.

As per claim 46, Mast discloses the limitation of wherein the pixel data is copied from the video RAM by a screen capture command (column 10, lines 52-66 and columns 11-12).

As per claim 47, Mast discloses the limitation of wherein the pixel data is copied from the video RAM by command to copy screen data to a clipboard (column 10, lines 52-66 and columns 11-12).

As per claim 48, Mast discloses the limitation of wherein the stored pixel data is encrypted pixel data (see column 7, lines 20-47). **Mast** further discloses that the image files are protected from misappropriation with some form of encryption and suggests to use other encryption schemes than the one disclosed (see column 7, lines 40-47). Therefore, it is apparent

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to one of ordinary skill in the art, as an encryption scheme, to have the substitute pixel datum encrypted to indicate that they are protected images.

As per claim 49, Mast discloses the limitation of decoding encrypted pixel data (see column 9, lines 8-20).

As per claim 50, Mast teaches the limitations of claim 50 using a method and an apparatus in a computer system (see column 4, lines 19-28). Claim 50 recites the same limitation as the rejected claim 45 except for incorporating the claimed methods into a system comprising a data bus and a pixel processor. A computer system has data buses to transfer data for storage, and processors to replace individual pixel datum. It is apparent to one skilled in the art that the method disclosed by Mast can be applied in a system.

Claim 51 is similar to the rejected claim 10 except for incorporating the claimed method into a system. Therefore, claim 51 is rejected on the same rationale as the rejection of claim 10.

Claim 52 is similar to the rejected claim 11 except for incorporating the claimed method into a system. Therefore, claim 51 is rejected on the same rationale as the rejection of claim 11.

As per claim 53, Mast substantially teaches a method for protecting digital images from being copied from a video RAM. Mast discloses the steps of modifying the stored pixel data so as to mark it as being protected and thereafter transmitting stored pixel data including the

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modified protecting pixel data from a computer memory to a video RAM (see column 7, lines 34-47 see column 3, lines 10-14; column 2, lines 13-25). (See also prior art columns 1-3).

Mast also discloses the step of identifying protected image within the image in memory that meets the recitation of identifying the protected pixel data within the stored pixel data (see column 3, lines 30-49 and column 10, lines 57-61); and in response to pixel data being copied from the video RAM, replacing individual pixel datum copied from the video RAM, that is protected, with substitute pixel datum (column 3, lines 30-49, column 9, lines 59 et seq., and column 10, line 53 through column 11, line 1); and discloses after instruction to copy pixel data from the video RAM, replacing individual pixel datum that is recognized as being protected, with substitute pixel datum (column 3, lines 30-49, column 9, lines 59 et seq., and column 10, line 53 through column 11, line 1). **Mast** does not explicitly teach that individual pixel data is marked as being protected. However, **Balogh et al.** in an analogous art teaches copyright protection and image authentication reciting modifying pixel data prior to display thereby generating modified pixel data within which individual pixel datum is recognizable as being protected or unprotected and also teaches thereafter transmitting stored pixel data from a computer memory to RAM (see column 10, line 50 through column 11, line 52; see also column 8, line 59 through column 9, line 14). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method of **Mast** by modifying pixel data prior to display or/and after instruction to copy pixel data, generating modified pixel data within which individual pixel datum is recognizable as being protected or unprotected as taught by **Balogh et al.** in order to alter pixel data in a way that appears unchanged and protect images from being copied (see column 10, lines 50-67). This modification would have been

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obvious because one skilled in the art would have been motivated by the suggestions provided by **Balogh et al.** so as to alter pixel data in a way that appears unchanged and protect images from being copied.

Claims 58-59 are similar to the rejected **claims 6-7** respectively. Therefore, **claims 58-59** are rejected on the same rationale as the rejection of **claims 6-7**.

Claims 62-63 are similar to the rejected **claims 10-11** respectively. Therefore, **claims 62-63** are rejected on the same rationale as the rejection of **claims 10-11**.

As per claim 64, Mast discloses the limitation of wherein the protected pixel data is encrypted pixel data (see column 7, lines 20-47).

As per claim 65, Mast discloses the limitation of decoding encrypted stored pixel data (see column 9, lines 8-20).

As per claim 66, Mast teaches the limitations of **claim 66** using a method and an apparatus in a computer system (see column 4, lines 19-28). **Claim 66** recites the same limitation as the rejected claim 53 except for incorporating the claimed methods into a system comprising a data bus and a pixel processor. A computer system has data buses to transfer data for storage, and processors to modify and replace pixel data. It is apparent to one skilled in the art that the method disclosed by **Mast** can be applied in a system.

As per claim 71, Mast discloses the claimed system of claim 66. Claim 71 recites the limitation of wherein said first data bus and said second data bus are distinct data busses. It is apparent to one skilled in the art that a computer system has distinct data buses to transfer data for storage (see column 4, lines 19-28).

As per claim 72, Mast discloses the claimed system of claim 66. Claim 72 recites the limitation of wherein said first data bus and said second data bus are the same data bus. The fact of using the same data bus instead of two distinct data buses may reduce cost. However, having one bus may slow down the process of transmitting data and furthermore it does not provide any backup if the bus fails. It is apparent to one skilled in the art that a computer system is capable of using either the same bus or distinct data buses (see column 4, lines 19-28).

As per claim 73, Mast discloses the claimed system of claim 66. Claim 73 recites the limitation of wherein said first pixel processor and said second pixel processor are distinct processors. It is apparent to one skilled in the art that a computer system may have distinct processors for different tasks (see also column 4, lines 19-28).

As per claim 74, Mast discloses the claimed system of claim 66. Claim 74 recites the limitation of wherein said first pixel processor and said second pixel processor are the same processors. The fact of using the same processor instead of two distinct processors may reduce cost. It is apparent to one skilled in the art to have a system using a CPU as a processor to

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perform all the tasks. It is apparent to one skilled in the art that a computer system is capable of using either the same processor or distinct processors (see also column 4, lines 19-28).

As per claim 77, Mast discloses the claimed system of claim 66 and further discloses the limitation of wherein the stored pixel data is encrypted pixel data (see column 7, lines 20-47). **Mast** further discloses that the image files are protected from misappropriation with some form of encryption and suggests to use other encryption schemes than the one disclosed (see column 7, lines 40-47). Therefore, it is apparent to one of ordinary skill in the art, as an encryption scheme, to have the substitute pixel datum encrypted to indicate that they are protected images.

As per claim 78, Mast discloses the claimed system of claim 66 and further discloses the limitation of decoding encrypted pixel data (see column 9, lines 8-20).

Conclusion

4. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

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CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

4.1 The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US Patent 6,557,103 Boncelet, Jr. et al. This patent prior art pertains to image authentication and copyright protection for modifying pixel data.

4.2 Any inquiry concerning this communication or earlier communications from the examiner should be directed to Carl Colin whose telephone number is 703-305-0355. The examiner can normally be reached on Monday through Thursday and every other Friday, 8:00-6:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ayaz Sheikh can be reached on 703-305-9648. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

cc
Carl Colin
Patent Examiner

March 10, 2004


AYAZ SHEIKH
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100